JANUARY-FEBRUARY
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California GARDEN

HORTICULTURAL CALENDAR

January Saturdays — **SAN DIEGO NATURAL HISTORY MUSEUM Canyoneers Outdoor Program**
Free guided nature walks. 1/5, 10-11:30 a.m., Kate Sessions Park; 1/12, 10-11:30 a.m., Rancho Mission Canyon Park; 1/13, 1-2:30 p.m., Florida Canyon; 1/19, 10-1:00 p.m., Cowles Mountain; 1/27, 1-2:30 p.m.,Lake Murray (Navajo). Information/brochure: 232-3821.

Jan. 2 — *** SAN DIEGO FLORAL ASSOCIATION Bus Trip to Pasadena**
Pickup at Balboa Park Organ Pavilion parking lot. Stops on request at El Cajon, La Jolla, and Hadley's. Viewing of Rose Parade in Tournament Park. $20 members; $22 non-members. Reservations: 232-5762.

Jan. 3 — **THE HUNTINGTON First Thursday Garden Talk**
1151 Oxford Road, San Marino. "Landscaping wtih Succulent Plants": slide lecture on hardy, drought-resistant plants. Sale of succulents. 2:30 p.m. Free. Call 818/405-2147.

Jan. 12 — **QUAIL BOTANICAL GARDENS FOUNDATION "Plant of the Month" Program**
230 Quail Gardens Drive, Encinitas. Trustees' meeting and program open to public. Guest speaker: Dr. Alfred B. Lau, renowned for research on cacti and succulents. Plant sale. Free. $1 parking. 12:45 p.m. meeting; 2:00 p.m. speaker. Call 436-3036.

Jan. 19 & 20 — **SAN DIEGO CAMELLIA SOCIETY "Mini" Show**
Casa del Prado, Majorca Room, Balboa Park. Sat. 11-4:30 p.m.; Sun.: 10-4:30 p.m. Free.

February Saturdays — **SAN DIEGO NATURAL HISTORY MUSEUM Canyoneers Outdoor Program**
Free guided nature walks. 2/2, 8-9:30 a.m., Shepherd Canyon; 2/10, 10-11:30 a.m. or 10-2:00 p.m., Los Penasquitos Canyon; 2/16, 10-11:30 p.m., Bayside Trail, Cabrillo National Monument; 2/17, 1-2:30 p.m., Lower Otay Lake (Chula Vista); 2/23, 10-11:30 a.m., Oak Oasis (North Lakeside). Information/brochure: 232-3821.

Feb. 2 & 3 — **SAN DIEGO CAMELLIA SOCIETY 44th Annual Show**
Casa del Prado, Majorca Room, Balboa Park. Sat.: 1-5:00 p.m.; Sun. 10-4:00 p.m. Free.

Feb. 4 & 5 — **INTERNATIONAL DESIGN SYMPOSIUM, LTD., Flower Arranging Seminar**
St. James-by-the-Sea Episcopal Church, 743 Prospect, La Jolla. Workshops and demonstrations for advanced arrangers and beginners. Brochure/information on fees: 546-1808.

Feb. 6 & 7 — **INTERNATIONAL DESIGN SYMPOSIUM, LTD., Festival of Flowers**
St. James-by-the-Sea Episcopal Church, 743 Prospect, La Jolla. Display of designs created by participants in the Feb. 4 & 5 Seminar under direction of leading flower arrangers. 10-6:00 p.m. $7.50/$6.50. Information/brochure: 546-1808.

Feb. 7 — **THE HUNTINGTON First Thursday Garden Talk**
1151 Oxford Road, San Marino. "Plants of New Zealand" : slide lecture on their adaptability to Southern California gardens. Plant sale. 2:30 p.m. Free. Call 818/405-2147.

Feb. 7, 8, 9 — **SANTA BARBARA BOTANIC GARDEN Oriental Art and Garden Series**
Dr. William Wu, PhD "Art and Design in the Chinese Garden" 2/7, 5:30-6:30 p.m., Santa Barbara Museum of Art; 2/8, 7:30-8:30 p.m., Santa Barbara Botanic Garden Library. Fee: $9 each ($7 members of participating groups). Tour of Lotusland free with lecture registration, 2/9, 10-12:00 noon. Information: 805/563-2521.

Feb. 8-10 — **FARM CONFERENCE Tradition of Innovation**
Sponsored by UC-Div. Agriculture and Natural Resources. Town and Country Hotel, Mission Valley. Opportunity for small scale farmers and other professionals to learn latest developments in family farming, direct marketing, and sustainable agriculture. Pre-conference tour to Baja. $64, preregistration encouraged. Information: Direct Marketing Program, CDFA, P. O. Box 942871, Sacramento, CA 94271-0001. Or call 800/952-5272.

Feb. 13 — **POINT LOMA GARDEN CLUB Bus Trip and Luncheon**
Visit to Sho-En Environmental Gardens in Ramona and luncheon at San Vicente Country Club. Non-members on space available basis. $25. Call 222-2765 between Jan. 25 and Feb. 1.

(Continued on page 12)

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Cover photo was contributed by David Reiter. David has been employed in Balboa Park since 1978. His primary interest is the Balboa Park Rose Garden. He acts as liaison between the Rose Society and the City of San Diego.

This issue of the California Garden Magazine edited by Lucy Warren.

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PACIFIC TREE FARMS, 422-2400, 4301 Lynwood Drive, Chula Vista, CA 92010.
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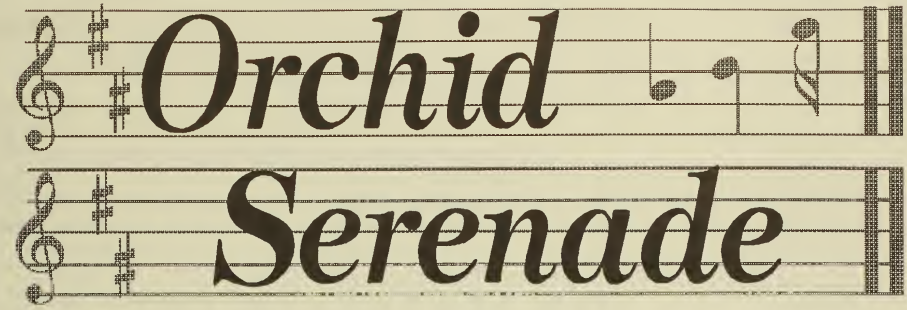
The San Diego County Orchid Society Presents



The 45th Annual Orchid Show & Sale

Friday, March 22, 1991 - 6PM TO 10PM
Saturday, March 23, 1991 - 9AM TO 6PM
Sunday, March 24, 1991 - 9AM to 4PM

ADMISSION $ 3.00 **FREE PARKING**

Children Under 12 FREE If Accompanied By An Adult

Scottish Rite Memorial Center
1895 Camino Del Rio South In Mission Valley

THE BALBOA PARK ROSE GARDEN

THE ROSE Garden in its present location (east side of Park Boulevard, across from the fountain) was built in 1975, principally through a donation from the Inez Grant Parker Foundation and the considerable help of Dick Streeper and the San Diego Rose Society. Its previous location, under the majestic arms of the Morton Bay fig, was considered somewhat too shady. The relocation also allowed for more varieties to be displayed.

The plants, to the delight of cold climate tourists, bloom continuously from late March until Christmas time. The yearly cycle begins in January when the roses are pruned to aid in forcing them into dormancy. Unlike their cold weather neighbors, these plants would continue to grow, resulting in "leggy" growth and the production of inadequate blooms if not given some help. Annual pruning in a very time-consuming job and generally takes a crew of eight or nine Grounds Maintenance Workers two weeks to complete. After the pruning of the almost 2,000 bushes is accomplished the beds are raked to remove any leaves and debris which might harbor insects or fungus. Finally, a dormant spray is applied to the bush and the surrounding area.

Now that the old is taken care of, time to think of the new. The bareroot plants received from Jackson and Perkins and Armstrong Nurseries. These roses are only labeled with a number, and are, in fact, next year's varieties and award-winners. Later in the year, usually in June, names are given to the individual roses. That gives the public a chance to see how the new roses are doing even before ordering. These All-American Rose Society award winners are tested for two years for quality before they are shipped to Mr. Richard Streeper for distribution to the Rose Garden.

February is the only month when the garden is without color. By mid-March the ten month bloom cycle has begun. It is no coincidence that there are a flurry of wedding ceremonies in the garden at this time of year. The first and second blooms are among the most crisp and beautiful of the year. The fertilizer that was applied at the beginning of March and the mild San Diego climate have combined to bring the garden alive with a visual spectrum.

April brings the garden into full bloom, and all 175 varieties can be viewed, smelled and enjoyed. It also begins the time of never-ending pruning for the gardener. With the increase in viewers to the garden comes the increase in questions. The two most popular are: What do you feed the roses and how much do you water them? Feeding is done monthly (March through September) with an all-purpose rose food. The general rule for watering is that roses like a lot of water, but they don't like standing in it. The old rule of sandy soil, more water; clay soil, less water holds true. The simplest way of determining whether the plant is getting enough water is to feel the soil. It should be moist but not soggy.

Photo by Lucy Warren

As the flowers begin to fade they are removed so as not to start seed production. This practice encourages the plant to bloom more and directs its strength into the blossoms and not the rose hips.

By August it is mid-summer pruning time, a chance to bring the growth of the bushes down by a third of their height and the garden as a whole to manageable proportions. This is the last big task of the year, with normal maintenance continued until December. In this last month of the year the time to stop cutting the dead blooms off has arrived. This is done to allow the bush to form rose hips and strengthen the canes for next year's production. and so we have come full circle.

"Full circle" may well describe the Rose Garden as a whole if plans for the future come to pass. The original semi-circles clustered around the arbor (in the Northeast corner) are due to become complete circles with a new addition. Plans have been drawn up and, barring complications, construction should take place in about a year. Happily this should increase the garden's capacity by 500 rose bushes.

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DAVID REITER - has been employed by Balboa Park since 1978.

ROSES OF THE PANAMA-CALIFORNIA EXPOSITION

ROSES accompanied early pioneers and trading ships to the gardens of San Diego. It was only natural that when the city first began to consider developing its first world exposition that thoughts of roses soon followed. By May, 1911, while nearing the completion of a giant watering system so essential to the success of the gardens, the Exposition nursery included the following roses:

400	Seven sisters
1,000	Cherokee
100	Reve d'or
300	Robt. S. Lee
200	LaMarque
100	Banchen

In April, 1911 the directors asked the San Diego Floral Association for aid in preparing rules and other details for a proposed contest for a new rose to be called "San Diego" and offered a prize of $1,000. It was arranged that the Exposition Company should do all the work of caring for the roses and pay all expenses incident to the contest. The Floral Association should formulate the rules of the contest, give publicity through **California Garden** and appoint judges. The prize was high and so were the standards for the new rose including that it be "quite distinct from any existing named variety." Contestants submitted entries which were cared for at the Exposition Nursery. When results were disappointing in 1912-13 the contest was continued into the following year. In the end none of the submitted roses were deemed worthy as a floral tribute to San Diego and the contest was officially closed in September, 1914.

Rose culture has been encouraged enthusiastically from the first issue of **California Garden** and the inclusion of roses in the garden displays of 1915-16 were much more successful than the contest. San Diego was yet a small community and early families were personally involved in creating an impressive display for visitors. In December, 1914 a plea was made for citizens to grow roses. "Start in to plant roses now and keep at it till you have used up all your available space; then start in on your neighbor, if you cannot prevail on him to run a race with you." Although the Exposition would only open in one short month, yet there was not one rose bush where the designers had hoped to have hundreds. Not just in the park, but throughout the city concerned city fathers wanted "a red flag of welcome to the visitor from every door.

By November, 1915 one garden in the park alone, the "Potpourri Rose Garden," included nearly 10,000 plants in about 50 varieties. The enterprising proprietress of this garden was known as "The Rose Lady." Like many displays in the Exposition it was a working garden, intending to support itself from its petals and buds. It's founder said it was financed on capital of 99% faith and 1% real money. Capital for such things as fertilizers were minimal initially, but it was a start. Its original site is now the paved parking lot behind the Organ Pavilion (then the Utah Building).

Photo by David Reiter

The Pepper Grove was a less frequented, very relaxing area of the park, now found off Park Avenue south of the Ruben H. Fleet Space Theater. Imagine the western side of the grove, tumbling down into the canyon covered with Pink Cherokee roses. Elsewhere, delicate pink Cecil Brunner climbing roses covered a pergola at the edge of Cabrillo Canyon. Certainly other roses were used to complement other park gardens, as well.

In May of 1915 roses were the focus of a special event at the Exposition, the May Rose Festival. This tribute to the rose included entertainment with dancers and music, an Electriquette Pageant, a Dance of the Roses, and a Battle of Blooms.

While the rose garden currently in Balboa Park was only established in 1975, roses certainly have been an integral part of the park since its conception.

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LUCY WARREN is assistant editor of California Garden and especially enjoys garden history.

SYSTEMICS

With Which You Can Bump Off Bugs - And Keep It An Inside Job

EVER SINCE LEONARDO da VINCI injected a peach tree with arsenic, killing the insect pests (but, unfortunately, rendering the fruit poisonous), agricultural scientists have been intrigued with the idea of controlling insects and disease by poison within the plant.

Throughout years of research, it has been found that certain chemicals applied to roots, stems and/or leaves are absorbed and "pumped" by the sapstream all through the plant.

These chemicals are known as systemics; that is, for a time they become part and parcel of the plant's "system." If the absorbed chemicals are capable of killing insects that feed on plants, they are known as systemic insecticides.

In 1936, U.S. Department of Agriculture scientists observed that aphids did not survive on wheat grown in selenium-bearing soils. And thus the research was on for chemicals that would render the vital juices of plants toxic to insects. Sodium selenate has since proven to be an effective but very toxic insecticide.

Possibly the greatest advantage systemic insecticides have over conventional contact or surface poisons is their selectivity. While surface pesticides are usually toxic to many insect species through contact, the systemics, once in the sapstream, will affect only those insects which feed on the sap of the plant itself. Thus they control most of the piercing-sucking insects such as aphids, thrips, borers, mealybugs, leaf miners and scales, and generally have a minimum effect on beneficial insects.

Systemics can be applied to the root area in solution or by water-soluble granules. Systemics can also be applied as foliar sprays, and absorbed into the plant "circulatory system" through the plant's openings in leaf tissue. Or the chemical can be injected into the root or trunk of a tree, as is now done with the insecticide "Bidrin" for control of the insect vector of Dutch Elm Disease. This experiment, unfortunately, has not been a complete success.

It has been found that systemics applied to foliage are moved quickest within the plant, although soil applications seem to remain effective longest. Systemics are applied when plants are in an active, not dormant state, because the fluid in the plant is the carrier.

Because these "internal insecticides" are not subject to adverse weather conditions and other atmospheric influences, they provide protection for a longer period of time. Some horticultural systemics give as much as six weeks or more of protection from sucking insects.

Another advantage: When a systemic is soil-applied, there is no drift, nor any poison to accumulate in the watershed.

Many plantsmen find the unsightly residues left by conventional insecticides a distinct disadvantage, particularly when they enter plants in competition. Again, systemics have the value of an "inside job."

Only a few systemics have been formulated in concentrations safe enough to use in home gardens. Disyston, marketed under various names, is a granular formation applied to the soil with a shaker canister. Meta-systox-R is now formulated by several pesticide manufacturers. It has become the popular ingredient of all-purpose rose insecticide mixtures. Dimethoste or cygon is another systemic chemical that is marketed for relatively safe home use, as is orthene. In shopping for these materials, the key word is systemic. You'll find it on the label.

Systemics have many advantages, but as a pesticide, their lethal qualities still prevail for man as well as insect. Use systemics and all garden chemicals with care. If one teaspoonful is good-two are not necessarily twice as good. Study the label and follow the instructions. DO NOT use systemics on food crops and don't chew on leaves of plants treated with systemic poisons.

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IRA KAPLAN: reprinted from Home Garden 1968, updated by the staff of California Garden Magazine.

DRIP...DRIP...DRIP

LIKE THE proverbial ostrich with its head buried in the sand, many in the west see the current drought as a passing inconvenience. They wait impatiently for the return of the good old days when a man was a man and a driveway was for hosing down...the days when arrogant sprinklers belched water into the air faster than the soil could possibly absorb it. They remember with pride our reputation for the cleanest sidewalks, decks, rocks, walls, and anything else we could reach with a blast from our hose. They refuse to face the fact that water conservation is here to stay.

WATERING CHART

PLANTS	DRIP METHOD	WEATHER HOT	WARM	COOL
Ground Cover	Bi-Wall	45 min	30 min	20 min
Flower Beds	Bi-Wall	45 min	30 min	20 min
Vegetable Gardens	Bi-Wall	1 hr.	45 min	30 min
Potted Plants	Spagetti Tubing	10 min	8 min	5 min
Shrubs	(1) 1GPH Emitter	30 min	20 min	10 min
Young Trees	(2) 1GPH Emitters	2 hr.	1 hr.	30 min
Trees (10' canopy)	(6) 1GPH Emitters	2 hr.	1.5 hr.	1 hr.
Trees (20' canopy)	(12) 1GPH Emitters	3 hr.	2 hr.	1 hr.
Trees (30' canopy)	(8) 2GPH Emitters	3 hr.	2 hr.	1 hr.
Trees (40' canopy)	(12) 2GPH Emitters	3 hr.	2 hr.	1 hr.

The times above indicate the total amount of watering time per day.

Drip Line Layout Chart

PLANTS	DRIP METHOD	EMISSION DISTANCE FROM PLANT	EMISSION LOCATION ON TUBING
Ground Cover	Bi-Wall	Plant Row	Pre-set
Flower Beds	Bi-Wall	Plant Row	Pre-set
Vegetable Garden	Bi-Wall	Plant Row	Pre-set
Potted Plants	Spagetti Tube	Plant Row	At Pot
Shrubs	1 Emitter	6"-12"	At Plant
Young Trees	2 Emitters	1-1/2'	Each Side
Trees (10' canopy)	6 Emitters	4'	Equally Spaced
Trees (20' canopy)	12 Emitters	8'	Equally Spaced
Trees (30' canopy)	8 Emitters	12'	Equally Spaced
Trees (40' canopy)	12 Emitters	16'	Equally Spaced

We all know one or two of them. We've seen them stand there glancing nostalgically at the dusty, limp green coil. Sometimes picking up the lifeless nozzle and giving it a squeeze can bring an ever-so-slight grin to their face. Longing for that day when once again they will realize the thrill that comes from mercilessly blasting an offending leaf from the driveway with a blast of water. Dreams die hard, but even the most devoted sprinkler fans know their time has come. Sprinklers are as obsolete as the Model T. It is now socially unacceptable to waste water. An overactive sprinkler system will bring frowns from your neighbors. A sprinkler shooting water onto the street is cause for a lynch mob in some neighborhoods. As we enter our fifth year of drought, many homeowners are taking measures that will not only ease future water shortages, they'll reduce your water bill and save your garden. In Santa Barbara last summer there were only two ways to irrigate: by hand carried bucket or by drip irrigation. Unless you were Arnold Schwartznegger, the choice was obvious. Recent innovations have made use of drip irrigation more practical than ever.

Some of the finest innovations were created right in our own back yard. Creator of the first real user friendly time clock, Hardie Irrigation of El Cajon has done it again with it's new "Raindial." Designed especially for drip, its removable control module allows you to program it anywhere. To add more stations in the future, all you need do is snap in a new module. Olson Irrigation in Santee has a new emitter head that utilizes your existing sprinkler system. The EH-12 emitter head contains all the components to supply drip to up to twelve locations and simply screws on the top of the sprinkler riser. The greatest little labor saving device for the gardener since the invention of the wheelbarrow also comes from Santee. Recipient of the Agricultural Engineering Award for Outstanding Innovations in Technology, T.F.S. Systems automatic fertilizer injector is a must for every garden. The "Add-It" is a real time saver for the busy gardener. It easily installs into any irrigation system and you simply let the water do the work for you. You can use any liquid or pre-mixed dry fertilizer that you want. The only problem is what to do with your old lawn spreader. I planted onions in mine.

With all these wonderful drought busting conservation products on the market, you would think that every garden would be a micro eden. The simple truth is there are not enough qualified installers to go around. Anyone can install a simple hose bib system in just a few hours. But for larger, more involved systems, technical considerations must come into play. Friction losses, changes in elevation, location for ease of maintenance, soil types, and individual plant needs are but a few. A large, elaborate system takes careful planning, precise layout, and precision installation. Some horticultural knowledge is helpful, too.

Unfortunately, the overwhelming demand for micro irrigation has attracted some less than honest individuals ready to take you and your money. As the David Horwitz of Drip, my horror file grows daily. For instance, poking little holes in tubing with a nail only gives you a leaky hose, not a drip system.

A gentleman from Lakeside recently called for advice. It seems his micro sprinklers were heading into orbit more often than the space shuttle. The fellow that put it in was not returning his phone calls. I arrived at his home at the precise moment his controller was scheduled to operate the system. I was compelled to

take cover after a nearby mini sprinkler suddenly launched itself over the roof. As it turned out, his $1,400 system lacked even the basic 20 lb. pressure regulator. It was operating at a full 125 lbs. of street pressure, much to the amusement of neighborhood children who gathered nearby each day for the "count down."

A La Mesa woman complained about the system she had just installed on her patio to water her hanging plants. Nails had been driven through the tubing to fasten it to the wooden overhang. At each corner, the tubing was neatly kinked a full 90 degrees to accommodate each corner. "He was such a nice young man, too."

Unscrupulous installers are not the only ones making basic mistakes. A Jamul homeowner told me he had done everything the right way. He used a regulator filter and the proper emitters. Many days went into carefully staking his feed lines in place. He had even allowed for expansion as his trees matured. He also had a plan drawn up with the help of a man at his local home supply warehouse that sold him the parts. Everything he told me was true. It was a fine looking job. Two full acres of young fruit trees had used up 23 drip kits. But they were all linked together to one small hose bib, and running the system at full tilt all day didn't even fill up the tubing.

Whether you plan to install the system yourself or hire someone to do it for you, your best defense against being ripped off is a little basic knowledge. Every system requires a pressure regulator. Turning the valve on "a tad" won't do it. Proper filtering is essential. A screen washer is not a filter so don't be fooled. A fertilizer injector with an anti-syphon is highly recommended, and well worth it. All tubing must be held in place with tubing stakes or landscape staples. Tubing accidently raked away from your plants serves no purpose. Plants tend to root themselves in one place and have great difficulty chasing stray emitters around the garden just to get lunch.

When interviewing and installer, ask questions. How much experience does he or she have at micro-irrigation? What type of components does he or she use and why? Ask for local references and **check them out!** Be suspicious if the installation can be done for you right away. Most qualified installers have a waiting list. Be prepared to wait several weeks or even longer when spring arrives. So plan ahead. For the do-it-yourself homeowner, stay away from those kits you find at the home centers. You end up with a lot of little parts you may not even need, and important components are usually lacking in quality. Check the Yellow Pages for an irrigation supplier near your home. You may be surprised to find that quality agricultural grade parts are

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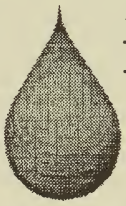

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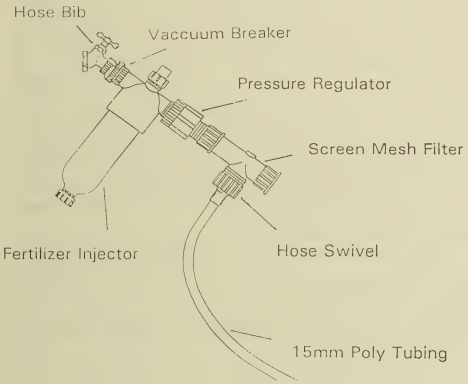

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For more information about drip irrigation contact your local Cooperative Extension office or send a self addressed stamped legal sized envelope to: Drip Info., 3755 Avocado Blvd. #248, La Mesa, CA 91941.

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ROB HANSEN "The Garden Doctor" is a horticultural consultant and is Vice President of the University of California Cooperative Extension Master Gardener Program.

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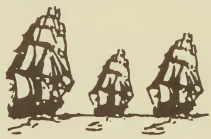

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LETTER FROM THE GARDEN

IT TAKES THE FIRST TRUE, deep rain of the season to prove that no matter which practice of watering, the method or amount of water we use, nothing we gardeners do compares with the results of an earnest rainfall.

Dozing daffodils awakened one recent rain-punctuated week with a start, as did freesias, anemones, nasturtium and lavatera (Silver Cup) seedlings. Even a Chinese ground orchid (*Bletilla striata*), ordinarily considered a late spring bloomer, presented a single stalk bearing three slender buds whose calyces[1] were polished to an iridescent rosy-magenta sheen. One opened in a balmy sway between storms, its "tongue" as frilled as a dress tuxedo. For those who love to grow things outdoors a wet winter in Southern California's coastal foothills fulfills the "promise of the Golden State" offered long-ago by sun-drenched and orange blossom-bedecked propaganda to a winter-locked world of gardeners. Being a breed of people who dig by nature to bury seeds and bulbs gardeners toiling especially in the clumpy adobe soil situations characteristic of these hills can rejoice in the damp earth. It's penetrable at last! The bent and tortured tines of a pitchfork easily pierce the once daunting 'dobe, and a fresh hole is dug for a small, grateful pink rose previously languishing in a site of impossible drainage and soil compaction. We know this same soil, unwatered, would appear as sere and cracked as the desert floor come high summer, but for now its damp texture gives it the rich aspect of loam and we are flush with its promise.

Between storms I hasten to transplant rosemary, island snapdragon, galvesia and society garlic into a border of other "utilitarian" evergreen flowering plants and shrubs. Nothing fancy here, just the reliable standards that in Southern California provide year-round interest and bloom: geraniums and euryops, iris and marguerites, alyssum and dusty miller, hibiscus, some herbs, mints, succulents, annuals and that one happy pink rose.

Dig while you can is the fiat, much as over-anxious Northerners and Easterners (and I was one) might react at the first spring thaw. Ferociously heavy mud solidifies on trowels and boots like cement, and even limber gardeners negotiate paths as if anchored by ball and chain. Inevitably, marble-sized clods break free and disintegrate on someone's newly swept floor-yet a small price to pay.

With my face close to the soil I can smell the rain long after the rivulets and puddles have evaporated, and see their many hints of verdant revivals and infinite simal beginnings. This is the time of year when a 48-hour absence from home on business or family visits results in some subtle, some exuberant transformations: a bare brown slope newly greened in wild grass; orange calendulas gone mad with blooms; one forgotten geranium slip flowering incandescent coral pink.

Within a week painted lady butterflies (*Cynthia cardui*) appear trolling above the flower beds.

Our gardens begin renewal even in mid winter with these deep, freshening rains.

* * *

Consultant's note: To maintain good soil structure dig clay when an overturned clod will fracture when struck with a spade.

* * *

[1] **Calyx:** First (from below) of the series of flower parts, usually green but may be colored like petals.

-=-=-=-=-=-=-=-=-=-=-=-

GLORIA GLASSER writes articles on horticulture and native wildflowers.

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Feb. 13, 20 & 27 — *** SAN DIEGO FLORAL ASSOCIATION Flower Arranging Classes**
Casa del Prado, Balboa Park. Velma West, instructor. $25 for series of 3 classes. 9:30-2:00 p.m. Information and room location: 232-5762.

Feb. 16 & 17 — **SAN DIEGO COUNTY ORCHID SOCIETY "Mini" Show**
Casa del Prado, Majorca Room, Balboa Park. Sat.: 12-4:30 p.m.; Sun.: 10-4:30 p.m. Free.

Feb. 19 — *** SAN DIEGO FLORAL ASSOCIATION Quarterly Meeting and Dinner**
Casa del Prado, Majorca Room, Balboa Park. 6:00 p.m. social time and dinner; 7:15 p.m. meeting and program. Speaker: Jesus Garcia, Southwestern Director of CALTRANS, on highway landscaping and drought tolerant plants. Information and reservations: 232-5762.

Feb. 23 & 24 — **OHARA SCHOOL OF IKEBANA, SAN DIEGO CHAPTER 13th Show**
Casa del Prado, Majorca Room , Balboa Park. Sat.:11-4:30 p.m.; Sun.: 10-4:30 p.m. Free.

Feb. 23 — **UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION Home Gardening Seminar**
Marston Middle School, 3799 Clairemont Drive. Sponsored by UCSD and SD Master Gardener Assn., 8-3:00 p.m. $20. Limited seating, pre-registration required. Select from 28 classes by local gardening experts. For information write: Gardening Seminar, UC Cooperative Extension, 5555 Overland Ave., Bldg. 4, San Diego 92123, or call 694-2845.

March Saturdays — **SAN DIEGO NATURAL HISTORY MUSEUM Canyoneers Outdoor Program**
Free guided nature walks. 3/2, 10-2:00 p.m., Borrego Springs; 3/10, 1-2:30 p.m., Tecolote Canyon (West); 3/16, 10-11:30 a.m., Lake Poway; 2/17, 1-2:30 p.m., Kate Sessions Park; 3/23, 8-10:00 a.m., Lake Murray (Kiowa); 3/30, 10-11:30 a.m., Torrey Pines Extension. Information/brochure: 232-3821.

Mar. 2 & 3 — **SAN DIEGO DAYTIME AFRICAN VIOLET SOCIETY 10th Annual Show**
Casa del Prado, Majorca Room, Balboa Park. Sat.: 1-5:00 p.m.; Sun.: 10-4:00 p.m. Free.

April 10-16 — **SANTA BARBARA BOTANIC GARDEN Springtime Tour of Pacific Northwest**
1212 Mission Canyon Road, Santa Barbara 93105. Visit gardens in Washington, British Columbia, and San Juan Islands. Pictures/itinerary on request. Write or call 805/563-2521.

May 19-29 — *** SAN DIEGO FLORAL ASSOCIATION Chelsea Flower Show Tour**
Escorted tour of England and Scotland including members only preview day of Chelsea Flower Show. Reservations and information call: 232-5762.

Every Saturday — **OFFSHOOT TOURS One-Hour Plant Walks in Balboa Park**
Meet in front of Botanical Lath House. Cancelled for rain or less than 4 attendees. 1st Sat.: Heart of the Park Tour; 2nd Sat.: Palm Walk; 3rd Sat.: Tree Walk; 4th Sat: Desert Walk; 5th Sat.: Sample of all four tours. 10:00 a.m. Free. No reservations.

Deadline for submission to HORTICULTURAL CALENDAR for March/April issue is January 15th.
SAN DIEGO FLORAL ASSOCIATION is not responsible for changes in information which has been submitted by the organizations.

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BARBARA'S BASIC BOTANY #5
LEAVES

LOOK AT THE world around you. Most of the green you see is leaves. Leaves can vary in size from tiny pine needles or blades of grass less than one half inch long to huge palm leaves which are used to build and thatch houses.

Take a close look at a leaf. Most are a thin, expanded, flat structure called a **blade**, attached to a stem-like structure, called a **petiole**, which is attached to a stem at a node. **Veins** radiate out from the petiole. A large center vein found in some leaves is called a **midrib**. Blade shapes and edges (**margins**) have special names that are used to describe and identify plants. Most plant identification books include charts describing the parts of a leaf. (Inside covers of horticulture and botany books also often have named leaf sketches.)

Using a magnifying lens of 5X to 10X, a typical cross-section will show that a leaf consists of three groups of tissues - **epidermis**, **mesophyll**, and **veins**. The **epidermis** (outside) is dense and is often covered with a wax-like substance which protects the leaf from drying-out. On the under surface small holes (**stomata**) can be seen. A **stoma** opens and closes to regulate the exchange of carbon dioxide between leaf cells and the atmosphere. Stoma give off water vapor, as well.

When too much is given-off the leaf wilts. The central portion of the leaf, the **mesophyll**, is rich in chlorophyll and is composed of loosely packed cells of various forms. In common garden plants, most of the food to sustain the plant is produced here. the **veins** are found in the mesophyll. These tube-like structures carry water and dissolved inorganic salts to the leaves and carry food away as it is produced by the green chlorophyll.

Nature adapts leaves to suit different needs in different plants. Some leaves have become modified until they are difficult to identify as leaves. One example is the spines which protect plants from grazing animals. Succulent plants have water storage leaves, and some plants, such as the onion, have underground food storage leaves. Bracts are colorful modified leaves which are believed to attract insects to pollinate the insignificant flowers they surround. Bougainvillea and poinsettia are the most obvious local examples of bracts. Tendrils of peas are leaves specialized for climbing.

Leaves and their functions are fascinating. More detailed information can be found in horticulture and botany books.

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Barbara S. Jones majored in Botany at SDSU. She was a seventh and eighth grade science teacher in San Diego.

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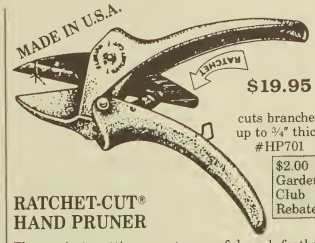

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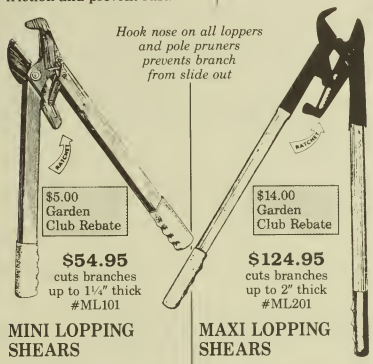

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AZTEC BEAN

ARCHAEOLOGISTS tell us that the prehistoric inhabitants of Mexico began cultivating a small, buff-colored bean that tastes somewhat like a mild lima, which is very high in protein and, best of all, grows where water is scarce. In fact, one good summer rain has been known to bring the bean all the way through a hellishly hot summer to maturity.

Tepary beans probably had their beginnings in Central America. They worked their way into Mexico and up into the Southwest. The Spaniards are credited with the introduction of the tepary to many desert tribes. However, they also brought along the pinto, which is twice as large as a tepary.

Modern man, spoiled by years of cheap power and cheap water, naturally opted to grow the larger pinto bean as a food crop. The tepary was nearly forgotten.

But North America's first domesticated bean may wind up as the long term winner in the "Battle of the Beans."

Scientists at the University of California at Riverside have spent the past seven years researching the tepary. Through selective breeding they have come up with new hybrids which will mature in just two waterings.

They managed to cross the tepary with the pinto, and also the kidney bean. Last summer's bumper yield of the new hybrids is being passed out to selected California farmers who will grow a seed crop for distribution to arid-land farmers throughout the world.

It has been common knowledge to many botanists that the tepary could grow in saline soils. So, the scientists as Cal-Riverside made sure this valuable trait was passed along to the hybrid beans. The resultant bean tolerates irrigation with water high in salts. This is just what the doctor ordered for our desert soils, which yearly show an increase in salts.

The California scientists additionally have provided farmers with a bean that is resistant to charcoal rot and bacterial blight, two diseases which have cost American farmers millions of dollars annually.

If you are the bean-cooker in your family, you'll be glad to hear that the new hybrids cook completely in just under 45 minutes. You see, the skin of the hybrid is just not as thick as a regular pinto bean.

In the "what's in it for me" category, farmers will be able to grow the new bean with far less water, resulting in a lower growing cost, which can be passed on to the consumer.

Those of you with imaginations can readily see that the most traditional of all desert dishes, beans and chili, may never be the same. Just think, "chili cook-offs" will be two hour affairs and advertising agencies will have a ball with ad copy that shouts... "There's Less Toot In Tepary."

Arizona Cactus has been able to get hold of a few pounds of tepary beans which we wish to share with our members and readers of "On The Desert." Just think, you can be in on the cutting edge of bean technology by merely sending us a self-addressed, stamped envelope. Plant the beans a half an inch deep in a basin you've cleverly formed in the ground. Then, when our summer rains come along, you can watch a 7000 year old bean hybrid do its thing. Here's your chance to grow and taste history! Send your bean request to: A r i z o n a Cactus, Eight Mulberry Lane, Bisbee, AZ 85603

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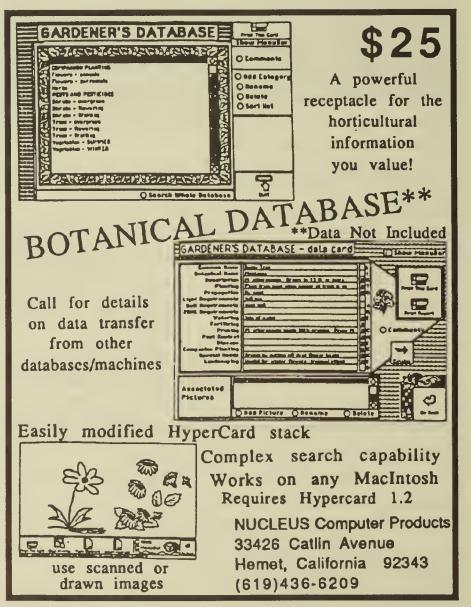
DAVID L. EPPLE is President of Arizona Cactus and Succulent Research, Bisbee, Arizona 85603.



HAVE YOU SEEN THE SASANQUA BLOOMING?

ABOUT THIS TIME OF YEAR you find people talking about the camellias that they saw blooming. Frequently there is some doubt whether a flower was "really was a camellia, because it just didn't look quite right." It is true that some camellias do not fit the stereotype - - they may be a sasanqua instead of one of the more familiar japonica types.

Camellia sasanqua is just as much a camellia as the old favorite *Camellia japonica.*

Catriona Tudor Erler a San Diego Union writer, holds a blossom of *Camellia sasanqua* 'Hana Jiman'.

Like the more familiar *japonica*, the *Camellia sasanqua* has lush dark shiny green leaves, but they are smaller. The flowers are smaller too and while varieties with single blooms of few petals abound, there are many doubles. The sasanqua flowers are not as heavy textured, blossoms are more profuse and the plants tolerate the sun. The flowers shatter in the wind.

The plants themselves are different because they are smaller and some are spreading types that can even be used as ground cover, while others are incredibly upright and superb for use as espaliers. All camellias require fast drainage and reasonably moist soil. The *C. sasanqua* plants are often more open and graceful than many japonicas. In general *C. sasanquas*. They are often used as foundation plants as they can easily be kept to under window height and bloom September through January when other foundation plants just sit there.

The leaf color is gratifying all year round.Sasanquas, if chosen carefully, can be used as a hedge, screening,

'Yuletide' is a vigorous, upright *Camellia sasanqua.*

espalier, ground cover and container plant.

One of the more popular Sasanqua varieties is 'Yuletide' with a single red flowers with bright yellow centers - and guess when it blooms? 'Showa No Sakae' makes a wonderful container plant with semi-double to double-marbled light pink flowers. For a taller upright plant, 'Sparkling Burgundy' with its small flowers in peony form is a delight. The flowers are a deep purplish pink with a blush of light purple. For a wonderful white flower, choose the semi-double 'Mine No Yuki' (also known as Snow, Snow on the Mountain and White Doves). 'Hanna Jiman' is an upright with 4" crepey flowers, white petals with a pink edge. These varieties are widely available.

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MELBA DAVIS is a garden news writer with the California Association of Nurserymen. **BETTY NEWTON** writes for the San Diego Union.

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THATCH ACCUMULATION IN TALL FESCUE VARIETIES

Mathew K. Leonard[1], Richard Autio[1], Victor A. Gileault[2]
and Stephen T. Cockerham[3]

WHILE TAKING SOIL CORES to measure tall fescue rooting depth, a significant amount of a thatch build-up was observed. This was surprising since tall fescue does not usually accumulate much thatch in Southern California and thatch control has never been a management concern with this species. To determine if thatch accumulation could be a potential management concern with the new turf-type tall fescue varieties, the 39 varieties present in the National Variety Trial at the UC Riverside turf plots were sampled.

The three-year-old National Variety Trial was designed as a randomized complete block with three replicates. The turf was mowed weekly at a 2 inch height. Irrigation was on an as needed basis and the plot was fertilized every six weeks with 1 pound of actual nitrogen per 1000 square foot. On March 3, 1987, one plug, 2 inches in diameter, was taken from each replicate of each variety and the thatch was measured. Also, the leaf texture of all replicates was visually rated on a 1 to 9 scale (1= coarse, 9 = fine).

Thatch was present in all varieties ranging in thickness from 0.64 to 1.14 inch. Generally, the pasture-type varieties developed the least thatch while thenewer turf-types, including dwarf varieties, accumulated the most.

Analysis of variance indicated highly significant differences in thatch thickness between varieties.

Turf texture also differed significantly between varieties ranging from 4.0 to 7.7. Cluster analysis produced four groups of varieties based on texture. The coarsest grouping consisted primarily of forage-type while the first generation turf-types were somewhat finer in leaf texture. Second generation turf-type and dwarf varieties dominated the finest textured grouping.

Thatch thickness and turf texture were positively correlated (r = 0.723), supporting the hypothesis that the new, finer textured tall fescue varieties tend to accumulate more thatch than the older forage varieties.

Due to limited sampling and data variability, this study is not considered to be conclusive. It does, however, point out a trend in tall fescue thatch accumulation that deserves further examination. A new National Variety Trial, established in the fall of 1987, will be evaluated over a number of years.

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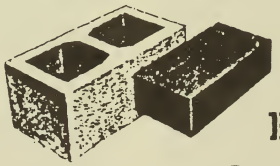
1 Staff Research Associate;
2 Extension Environmental Horticulturist;
3 Superintendent of Agricultural Operations; University of California, Riverside.

HAZARD MART
San Diego County's Masonry and Home Center

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EVERGREEN FRUIT TREES

THREE KINDS OF EVERGREEN fruit trees are tremendously popular in the San Diego area - - avocado, olive and many varieties of citrus. If nothing else (movies included) citrus is what has made Southern California famous.

All of these trees lend themselves to home gardening if you take into account the basic needs, your soil and the immediate climate. A good rule of thumb to follow if you are planning to plant any of them is to look around your neighborhood to see what other people have had success growing. Time is a good filter and the ones that are not successful will not last long.

Avocados are very temperamental trees for predictable fruit production. They suffer from all sorts of environmental stresses that may preclude a good crop. The trees, especially 'Fuerte', may bear alternate years in a production cycle, so if you have lots of avocados one year, do not expect a bumper crop the next. The commercial growers who spend all their waking hours tending them, have found which varieties and which locations go together. You may not be so lucky, so follow the caveat and look around your neighborhood.

For best results, choose the 'Haas', 'Fuerte' or 'Zutano'. Although its fruit is not the best (many say tasteless), the 'Zutano' is the most forgiving in a home garden. 'Reed' is a full-flavored, roundish avocado growing in popularity on the coast.

The best culture is to place the avocados in a location that has good drainage, lots of sun and, if possible, wind protection. Fertilize when new leaves start to come out, but hold off after blossoms appear to have set fruit.

Citrus trees make good garden plants if their requirements are met. Those are, simply, regular watering and enough heat for the fruit production season. Lemons and limes require the least amount of heat, with oranges second and grapefruit third. The measurement of temperature is how many hours a day in your location the temperature is above 55 degrees fahrenheit. Before selecting citrus, look up the degree/day requirements of your particular choice.

Without doubt, more citrus is ruined by over-watering than anything else. The trick is to water only when the soil gets pretty dry, and then thoroughly soak the tree. Wait until you are sure the soil is dry before you water again. The soil should be well draining and fertile with lots of essential trace elements in it. If the leaves look sallow and growth is spotty a good dose of chelates will be beneficial.

How rewarding it is to pick your breakfast orange from your own tree! Growing oranges in your garden is well worth the while. They are slow growing, and seldom get out of hand. They prune easily.

As for olives, they seem to have been designed for Southern California's climate and the home garden. There a tree may withstand mistreatment, accept lots of pruning, bear fruit and provide tasteful satisfaction.

The two most important varieties used in our area are the 'Manzanillo', used for landscaping, and 'Mission' which is used both for landscaping and fruit production. You will find that olives bear heavily one year, with only a small amount of fruit the following year.

Olive trees need full sun and seem to thrive in rocky, dry, inhospitable soils, withstanding lots of heat. They take pruning very well and seem to bear fruit better for it. They are almost totally disease free.

Their only drawback is the fruit drop. Olives, if not harvested, will fall to the ground when black and ripe and will rot leaving an oily odor around the tree.

If fruit production is not what you want, there are hormone sprays that, applied to the blossoms, will stop development. The 'Swan Hill' variety is sterile and without fruit. It is available locally.

Another attribute of olive trees is the ease with which they can be transplanted. As long as you get a good quantity of the root ball and keep it moist for a while, an olive tree will take hold and survive very well.

If you want to process for consumption, and don't mind getting up in the middle of the night to stir the lye solution, write to the University of California, Agricultural Publications, 6701 San Pablo Ave., Oakland, CA 94608-1238, for their catalog listing and their bulletin on olive processing. Curing your own olives is a very rewarding experience.

In this combination subtropical/mediterranean climate, avocados, olives and citrus feel right at home.

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ROBERT D. HORWITZ is a retired space engineer who loves to write about gardening.

EARLY ACCOUNTS REVEAL DRAMATIC CHANGE IN FIRE PATTERNS

SOUTHERN CALIFORNIANS at the turn of the century considered mountain fires "beautiful spectacles," not tragedies, according to news accounts gleaned in a University of California, Riverside study.

"Before 1900, fires burned between 2,000 and 12,000 acres at a time. Most occurred in summer in the absence of Santa Ana winds and smoldered and flared for up to three months." said Richard Minnich, UCR geographer.

"People thought fires in the hills were nice to watch. The fire department might send 12 men to fight a 10,000-acre fire." But after fire suppression began in 1900, the fire pattern changed dramatically, he said. By 1919, the first catastrophic fires hit Southern California - consuming 130,000 acres.

Published recently in the Annals of the Association of American Geographers, Minnich's historical findings gain added significance as Southern California braces for its next contest with fire driven by Santa Ana winds.

Fire suppression, the practice of extinguishing all fires immediately, became a national policy in 1900. Previously, fires in Southern California were small and frequent, creating a mosaic of forest growth of different ages with juvenile growth providing natural fire breaks.

"By 1919, the natural forest mosaic was lost, fire suppression had the effect of postponing fires until the accumulation of dead plant material and the advanced age of the chaparral led to catastrophic fire and the worst weather conditions - hot, dry Santa Ana winds."

Minnich constructed a fire history of Southern California between 1868 and 1919 using new accounts in the Los Angeles Star, the San Bernardino Guardian, the Los Angeles Evening Express, the Riverside Press and Horticulturist, and the Los Angeles Times.

The UCR study revealed the detailed history of three fires on Mt. Wilson above Pasadena between 1896 and 1900. "The fires were characterized by short periods of active burning separated by longer periods of smoldering, as a result, the areas of severely burned vegetation were highly localized and created a mosaic after a single burn."

The typical news observation in early days was a vague statement that fires were raging in the mountains, language suggesting that burning was an ordinary circumstance which persisted for considerable periods.

The UCR geographer's study revealed that William Mulholland, better known for his efforts to import Owens Valley water to Los Angeles, took an early, controversial stand against fire suppression.

Minnich noted, "During the 1908 La Crecenta burn, Mulholland refused an appeal of forest rangers to send Los Angeles City Water Department personnel to fight the fire, saying, 'The damage to our watersheds by these brush fires is greatly exaggerated . . . experience has taught us that we cannot prevent fire. In my opinion, it is better to have a fire every year, which burns off a small area, than to go several years and have a big one denuding the whole watershed at once.'"

His view was confirmed 11 years later when fire charred 130,000 acres, one ranging from Mt. Baldy to Azusa and the other from Mt. Gleason to the San Fernando Valley.

The findings confirm Minnich's previous research. He contrasted fire behavior in northern Baja, where no fire suppression is practiced, to that in the similar terrain of Southern California, between 1972 and 1980. Median fire size in Southern California was more than twice that in Northern Baja.

In turn-of-the-century news accounts, fires are seen as thrilling natural phenomena. The L.A. Times states that an 1898 fire "assumed exciting proportions as broad sheets of flame and clouds of smoke [were] seen all afternoon and evening." Later, a "freshening of the [Santa Ana] winds incited the flames into a furious outburst."

In another story, firefighters saw a "wall of flame 40 feet high." Tourists casually watched the 1898 Mt. Lowe fire smolder until dark. Later "the canyons as far as the eye can see were walled with flame," and the view from Mt. Lowe summit disclosed fires "chimneying up the sides of the greater peaks of Mt. Lowe, Mt Markham and Mt. St. Gabriel."

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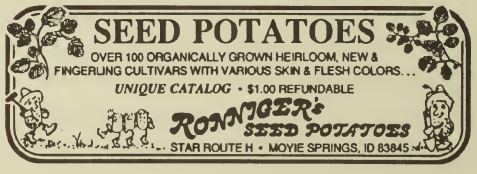
WALTER L. GRAVES is a Farm Advisor with the Cooperative Extension, University of California, San Diego.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UC PUBLISHES GUIDE TO PESTICIDES ON SMALL FARM, GARDEN

EACH YEAR CALIFORNIA home gardeners apply about one pound of pesticide for every man, woman and child in the state.

"A substantial part of this pesticide use could be eliminated if home gardeners had a better understanding of both the pest and beneficial organisms in their gardens," says mary Louise Flint, a University of California authority on the subject and author of a new book, Pests of the Garden and Small Farm, a grower's guide to using less pesticide.

The 276-page book is vividly illustrated with 250 color photographs and more than 100 black and white drawings and photographs. The comprehensive and easy-to-use guide will enable the user to quickly identify and prescribe treatment for insects, mites, plant diseases, nematodes and weeds that affect vegetables and fruit trees.

"To date, there have been few good references to assist gardeners and very small farms in identifying and managing pest problems on their vegetable crops and fruits," Flint said, "As a result, many gardeners use pesticides and other methods when simple changes in production practices could prevent pest problems in the first place. I wrote this book to fill this gap and to provide pest and crop-specific information on how to limit pest damage with a minimum of toxic substances."

It is the first such book to adapt scientifically based Integrated Pest Management techniques (IPM) to the needs of the home gardener and small-scale farmer. The IPM approach minimizes the use of broad-spectrum pesticides, relying primarily on alternatives such as biological control, resistant varieties, traps and barriers, less toxic pesticides and manipulating agricultural practices.

Flint discovered that many of the Integrated Pest Management approaches utilized by larger commercial growers had little practical value for those growing less than an acre. Yet the biological information and many of the techniques can be readily adapted for garden and small farm use.

"Although many of the IPM programs have been perceived as unusable by organic growers because they involve some use of synthetic pesticides, most of them can be modified for use with organically accepted methods," Flint says.

Director of IPM Education and Publications and a UC Cooperative Extension specialist, Flint has developed IPM programs and publications widely adopted by mainstream agriculturalists in such commodities as alfalfa, almonds, citrus, cotton, cole crops and lettuce, rice, potatoes, tomatoes and walnuts.

Order the book by title and number (3332) from ANR Publications, Dept. NR. University of California, Oakland, CA (4608-1239. Enclose a check payable to UC Regents for $25.00, which covers tax, postage and handling. Call 415-642-2431 to place orders using VISA or MasterCard.

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JOHN STUMBO is a staff writer for UC Cooperative Extension, Davis.

SINCEREST THANKS

EVERY YEAR IT TAKES the efforts of many people to put together the Floral display for Christmas on the Prado. This year the displays creating a "California Christmas" must have been some of the best we have ever had. Tall dried agave stalks decorated with red ribbons and white twinkle lights formed a desert garden in the center of the room, with poinsettias massed at their bases. They formed a backdrop for the delightful individual displays of San Diego flower arrangers, plant societies and garden clubs. We know that at least 10,000 people who came to Christmas on the Prado appreciated their lovely work. One of our members overheard someone working at the San Diego Art Museum telling people to be sure to see the Floral display because it was so beautiful.

Our good friends on the staff at Balboa Park, the Lath House and Old Town State Park were invaluable in helping us to "put it all together." Commercial firms also contributed their time and material: Walter Andersen's Nursery, Design Images, Waverley Wreaths, California Pacific, Emmanuel Growers, El Centro Artesano of Old Town, Protea from Shirl. Martha Rosenberg, who teaches our basketry classes, came to demonstrate her art.

And, the members of Floral donated so generously of their time, talents, and trucks.

Please accept our thanks, we couldn't do it without you.

- Marie and Kathy Walsh, Co-Chairmen

FLORAL UPDATES LOGO

NO, IT'S NOT your eyes, the floral emblem really does look a little different. The design of the logo for San Diego Floral Association was established when the organization was first incorporated in 1910, just three years after it began and one year after the first publication of **California Garden** magazine. The design was on an embossing seal which Floral used for official documents and awards.

Our history is notably sketchy from that time, but in approximately the early 1950s one of the members created a full color painting of the design and we began using the symbol in the magazine.

This winter we decided to further expand its purpose. Kathy Walsh, co-chair of Christmas on the Prado, took on the project of having our logo put on gift items to help fund some of our many projects. She enlisted Lucy Warren to do the artwork. Our own intuition and the printer's admonition indicated that the delicate watercolor was simply too pale to suit the purpose. This offered the opportunity to update the floral design on the logo to reflect the current floral community in San Diego. The challenge was to be sensitive to both the heritage and current times. Although we love miniature daffodils and snowball hydrangeas, they were retired in favor of other blossoms.

Roses have long been a favored flower in San Diego, blooming all but a few months of the year, so, like the first logo, there are now two, one red and one yellow. Chrysanthemums were highly popular in the era of our founding in 1907. The annual autumn chrysanthemum show was one of the social events of the year...and so it includes an orange football mum. Carnation is the city flower of San Diego and has been a long time commercial staple among local growers. Orchid mania hit Europe in the nineteenth century, but they were stingy with their treasures and only much later, during World War II, when the orchids were sent to Southern California for safe keeping did the cymbidiums begin to thrive in our climate. The orchid is the city flower of neighboring National City.

But the new world plants have not been forgotten, especially those which have gained popular appeal. California poppys (*P. Eschscholzia*) native to the central California valleys pop up behind a large white crinkle petaled Matilija poppy (*Romneya coulteri*) of Southern California. And, we have added the poinsettia from our nearby Mexico. Kate and Frank Sessions were among the first nurserymen to cultivate them for wide distribution. Currently local San Diego growers dominate the market.

Oh, yes, and the bow is a little softer. We hope you will enjoy the new look and wish we could print it here in color. Perhaps you would like a copy your own on a handy tote bag, or butcher's apron. We have only a few white T-shirts left in a comfortable extra large size. The printing is done by a new laser silk screen process which reproduces the brilliance and subtlety of the original watercolor. Items are each $8 and can be purchased at the office in Balboa Park. Or, if you can't come in, please add $2.50 for each item for shipping.

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Book Reviews

by Mary Lou Orphey

Hyatt, Brenda
AURICULAS
Cassell, Artillery House, Artillery Row, London SW11RT, 1989
Globe Pequot Press, U.S. Distributor
144p, color photos,
8 3/4" X 11", hardcover, $19.95 (add $2 shipping/handling)

Many gardeners are familiar with Primula vulgaris and Primula polyanthus, but p. auriculas may increase in popularity after gardeners discover how easy they are to grow. They do well in zones 1-6, 17, 22-24.

After an exploration of their origins and history, the author discusses the cultivation, propagation, breeding, pests and diseases of p. auriculas. There is a wealth of information on the subject, and the eighty color photographs are exciting. The descriptive selections of auriculas should be read in conjunction with viewing the photos.

The list of nineteen nurseries in the United States (many of which are in Washington and Oregon), which stock varieties of auriculas is a good source of supply for these beautiful plants. Potential exhibitors will appreciate the Guidelines for Exhibitors.

* * *

Capron, Brian
BOTANY FOR GARDENERS
Timber Press, Inc., 1990
6" x 9", hardcover, $29.95 (add $3 shipping/handling for first book, $2 each additional)

Botany for Gardeners is (almost) guaranteed to give any gardener a green thumb - provided the information is really learned and used properly. This is a fairly compact book, just the right size for a gardener's library or to take up to the mountains or desert to read on a holiday. It shall surely go with me.

Written simply and clearly, with ample color photos and drawings for explanation; the text is interesting and not difficult to understand.

Divided into five sections, the first section explains Growth (Cells and Seeds, Basics and Beginnings, and Roots and Shoots, How Plants Mature). Section II is Organization (Inside Stems, Inside Roots and Leaves). Section III is Adaptation (for Protection, and to Fill Basic Needs). Section IV is Functions (Control of Growth and Development and the Uptake and Use of Water, Minerals and Light). Section V is Reproduction (From Flowers to Fruit, and Strategies of Inheritance).

Gardeners prefer to be out in the garden, with good soil at their fingertips and healthy plants all around them. Evenings spent reading **Botany for Gardeners** will heap make this desire a reality.

* * *

Pulleyn, Rob & Mautor, Claudette
EVERLASTING FLORAL GIFTS
Sterling Publishing Co., Inc., 1990
144p, color photos,
8 1/2" x 10", hardcover, $21.95 U. S. ($29.95 Canada)

Ever wonder how to use those long green wooden picks with a wire trailing off the end, or how to cover styrofoam balls or wire wreaths? Learn the basic techniques for gathering, drying and using flowers and herbs.

Want to know what flowers to plant? The list of flowers to grow for drying, and garden designs for seasonal gardens provide the answer.

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* * *

Sheen, Joanna
THE FLORAL DESIGNER
Using Color and Texture in Flower Arranging
Sterling Publishing Co., Inc., 1990
144 p, color photos
7 3/4" x 11", hardcover, $19.95 ($25.95 Canada)

Joanna Sheen gives lots of practical advice in her most attractive book on flower arranging. (Find out how to keep pollen stains from ruining tablecloths). Of particular interest is the varied and unusual use of containers. The concept of mixing fresh and silk flowers, or silk and everlastings is an interesting alternative to strictly fresh flowers. The author explains exactly how the arrangements are created.

The book is divided into chapters as Peaches and cream, Whiter shades of pale, Hot reds, Mellow yellows, Pretty pinks, Blue nocturnes and Complementary colours.

Gorgeous arrangements, visual delights, practical advice--all abound in **The Floral Designer**. For a friend, or a special treat for oneself, this book will inspire the creative talents of floral designers.

* * *

LIST OF PUBLISHERS:

The Globe Pequot Press
138 West Main Street, Box Q
Chester, CT 06412

* * *

Sterling Publishing Co., Inc.
387 Park Avenue South
New York, NY 10016

* * *

Timber Press, Inc.
9999 S. W. Wilshire
Portland, OR 97225

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ORCHIDS: A VICTORIAN PASSION

Huntington Library Exhibition to Open February 8

VICTORIANS HAD a passion for orchids, a passion sparked by the first flowering of the exotic species brought to England from the tropics in the early 1800's. The exhibition, "Orchids: A Victorian Passion," on display in the Huntington Library Exhibition Hall from February 8 to June 2, focuses on the extensive study, cultivation, and collection of orchids that occurred during the nineteenth century as a result of this fascination.

The exhibition will feature the full range of Western orchid illustration from Francisco Hernandez's natural history of Mexico published in Spain in 1651 to twentieth-century scientific drawings.

Live orchids in bloom will also be displayed to complement the botanical illustrations. Many kinds of orchids, including vandas, cattleyas, cymbidiums, and dendrobiums, will be represented in both illustrations and living plants.

In 1837 James Bateman, a horticulturist and important collector, student, and cultivator of orchids, published **Orchidaceae of Mexico and Guatemala**, featuring 40 hand-tinted color plates. It was the largest book published up to that time. As a last testament to the orchid craze, at the end of the century a set of lavishly illustrated large folio books called **Reichenbachia** appeared, further glorifying orchids with chromolithographic plates. Written by orchid grower and imported Frederick Sander and substantially illustrated by H. C. Moon, the set was named for Heinrich Reichenbach, an orchidologist who held the greatest reputation at that time in the world of orchids. Both books will be shown in the exhibition along with copies of **Curtis' Botanical Magazine** which throughout the century featured scientific descriptions and hand-colored illustrations of new orchid discoveries. The magazine is a remarkable publication that has appeared regularly since 1787, publishing by now over 10,000 usually hand-colored illustrations of the world's decorative plants.

The passion for orchids was part of a trend among Victorians toward an interest in natural history resulting from the increase in explorations to tropical lands in search of exotic plant material during the nineteenth century. Collectors in England built bigger and bigger glasshouses, especially after improvements in glass manufacture in the 1830s and the reduction of the glass tax in 1845, to accommodate larger and larger tropical collections including orchids. Competitions developed among landowners to be recognized for the largest and most spectacular orchid and tropical foliage collections.

The Huntington is open to the public Tuesday - Friday, 1 - 4:30 p.m.; Saturday and Sunday, 10:30 - 4:30 p.m. Free admission, a donation of $5 per adult is suggested.

California GARDEN
Since 1909

NOW IS THE TIME...

A CULTURAL CALENDAR OF CARE FROM OUR AFFILIATES

Compiled by Penny Bunker

BEGONIAS

Margaret Lee

WATCH the watering program - slow growth requires less water, but do not allow to dry out.

PRACTICE clean housekeeping - clean out old foliage and leaves.

START cutting back canes and shrub types.

ADD more planter mix to pots as needed to keep roots covered.

SPRAY for mildew and check for pests.

START your tuberous begonias in February for bloom later.

***

BONSAI

Dr. Herbert Markowitz

REDUCE watering if a rainy time: they need less water during this slower growth period, but do not allow to dry out.

REFRAIN from fertilizing your trees.

USE a lime-sulphur spray on deciduous trees.

GRAFT evergreen trees as well as conifers.

WATCH for aphids and other sucking insects; spray accordingly.

PRUNE fruit-bearing bonsai.

CHECK deciduous trees careful. If they start to sprout in February, move them to shade area to prevent blooming too early.

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BROMELIADS

Mary Siemers

PROTECT plants from freezing temperatures. It helps to keep them about two or three feet above the ground, and cover sheets, newspapers, etc., or bring them indoors.

REMEMBER to spray foliage two or three times a week when kept indoors, and change water from center cups about once a week to keep it from becoming stagnant.

BE CAREFUL with plants indoors not to place them in front of a heating vent or in a drafty area.

DO NOT water the soil until it is almost dry.

ALWAYS provide good drainage and never allow the soil to be soggy.

***

CACTI & SUCCULENTS

Joseph Betzler

REMEMBER to rest those winter dormant plants and keep those winter growers happy. Be careful with water and fertilizer. As it gets colder, water in the early part of a sunny day; if it looks like rain, hold off on the water. This allows water to evaporate and fungi will not start as easily.

PROTECT outside plants from excessive rain where possible. A little frost protection with a piece of paper or plastic can save a plant. Many succulents will turn into a mass of soggy pulp if frozen. (DO NOT forget to remove cover when conditions are more favorable.)

WATCH new cuttings, they may not root as fast, and if you can supply bottom heat you should not have too much of a problem.

KEEP an eye on the seedlings, fungi can be a problem at this time. Snails can make a great midnight snack of seedlings, too.

USE some form of snail and slug control if needed.

CLEAN up those old pots, and pick up the last of the leaves and other debris. Straighten up the collection, you don't want to encourage mice and the friendly roof rat. Rodents can make a mess of your collection.

NOTE those plants you want to propagate next growing season, and find out how to make new starts. Find out more about winter growing succulents, so next year you can have additional in your collection.

BROMELIAD STUDY GROUP
OF BALBOA PARK

Learn How to Grow Beautiful Bromeliads
Meetings 7:30 P.M. 2nd Tuesday of Each Month
Visitors and New Members are Welcome
Refreshments 7:00 P.M.

CAMELLIAS

E. C. Snooks

KEEP plants clean and pick up all blooms to prevent petal blight.

FEED with a 2-10-10 fertilizer to get better and larger blooms.

SELECT new varieties while they are in bloom.

TREAT a few buds with gibberellic acid for larger blooms.

CONTINUE a regular watering schedule; plants must be kept moist but NOT wet.

MAKE grafts.

TRANSPLANT camellias; do not fertilize newly transplanted plants.

***

DAHLIAS

Abe Janzen

CUT OFF tops just above the soil level, and dig any tubers left in the ground. (By January, the tops should be completely withered).

STORE tubers without dividing them; leave on any soil that clings. Store in vermiculite or sand and keep in a cool place.

INSPECT those tubers stored earlier for signs of shriveling; if too dry add a little moisture.

START in February to prepare the planting bed. Turn the soil, add humus, and fumigate. Two or three weeks prior to planting, thoroughly dig in humus and equal parts of superphosphate and sulphate of potash and turn well.

START in February some selected roots to sprout; these may make good cuttings. Bottom heat can be applied to encourage sprouting.

***

EPIPHYLLUMS

Frank Granatowski

PROTECT plants from unexpected frost and strong wintry winds.

BAIT for slugs and snails.

SPRAY insecticides only if necessary. Avoid sprays with oil base.

MAINTAIN preventative pest control by keeping plants free from debris and extraneous materials.

PRUNE out dead and unsightly growth, allowing more energy to be used by newer and healthier branches.

FEED mature plants with a 0-10-10 fertilizer to promote blooming in spring. Either liquid or slow release granules can be used; another application may be necessary in about 30 days.

OHARA SCHOOL OF IKEBANA
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Learn to make elegant Japanese Floral Arrangements
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Forum Hall in University Town Center
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***

FERNS

Ray Sodomka

WATER gently; don't soak during any hot days. Don't' rely on rains either.

CHECK any hidden or covered plants to see they get water.

KEEP after snails and slugs, pill bugs, etc.; wither days do not stop them.

TRIM off fronds in frost free areas.

FERTILIZE platyceriums (staghorns) - give bone meal, hoof and horn, or a high nitrogen liquid.

PLANT spores.

TAKE "pups" from platyceriums.

REPOT, rebasket, and divide ferns in frost free areas.

***

FUCHSIAS

William Selby

CUT BACK in frost free areas and take cuttings.

CLEAN UP - remove all dead foliage and blossoms.

CLEAN pots and baskets of anything that hide fungus or insect eggs.

DO a clean up spraying to eliminate pests that might winter over.

APPLY fertilizer high in nitrogen for lush growth as the plants show new growth.

***

GERANIUMS

Carol Roller

WATER thoroughly when plants become somewhat dry. Allow the excess water to drain away. Keep foliage as dry as possible.

CONTINUE feeding with a balanced fertilizer dissolved in water. Use at less than the recommended strength. Apply as often as needed to keep plants growing well.

CONTINUE a pest control and disease prevention program using all products according to the manufacturers' directions.

PRUNE any plants which have not been cut back. At least one green leaf should remain on stems of regals, scenteds, and similar types. Lanky plants which were pruned earlier can be cut back again to produce more compact plants. Tip pinch other plants which were pruned in the fall.

MAKE cuttings from the prunings. Shelter cuttings from extreme weather.

PROTECT plants form freezing temperatures. Temporary coverings may be used. Containerized plants may be moved to sheltered location.

CONTINUE to rotate plants on a regular basis in order to keep them well shaped.

IRIS

San Diego-Imperial Counties Iris Society

MAKE last planting of bulbous iris for spring bloom.
CONTINUE a watering program, especially if rains are light.
START a regular spray program with copper oil for rust.
ESTABLISH a regular program of snail, slug, and aphid control.
KEEP old brown fans cut off of tall-bearded iris; good ground cleaning and spraying is helpful in pest control.
START in February to feed all iris with 0-10-10 liquid fertilizer--follow directions and do not over fertilize.

***

ORCHIDS

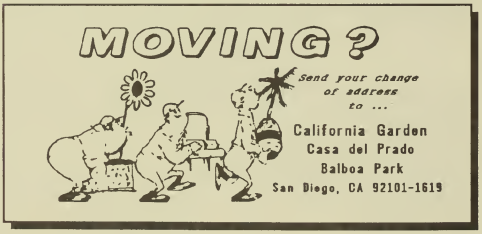
Charles Fouquette

CHECK the moisture in orchids that are grown outside - don't be fooled by overcast days.
DRY OUT the new world orchids that are outside, sometimes the winter is the driest time in central and south America. Consider the origin of your laleas, oncidiums, epidendrums, catasetums and their hybrids.
GIVE noble dendrobiums some cool time and a bit more light than normal; mist to keep damp. Don't water or feed until after the buds are formed and nw growth has started.
STAKE spikes of cymbidiums - don't rotate the plant. Put the green and yellow flowered plants in the shade to hold color better and to keep from fading.
DO LAST repotting of phalaenopsis and be careful; some plants will be in spike.
USE low nitrogen fertilizer on cymbidiums - do not overfeed; give (10-20-30) or (6-30-30) at one-half teaspoon per gallon every other watering; every third watering, flush well.
GIVE phalaenopsis fertilizer at this time with a (20-20-20) at one teaspoon per gallon every other week with one-eighth teaspoon epsom salts. Or, if in fir bark, use a (30-10-10) alternating two to one with a (6-30-30) to help harden spikes and develop flowers, also add the epsom salts at one-eighth teaspoon per gallon. March will change slightly.
WATCH for slugs and snails - cast some bait around.
WATCH for sudden temperature changes.
WATER as early as possible in the morning so plants will be dry by nightfall.
CHECK you heater for spider webs, clogged flues, leaks. It would be a shame to lose a prize flower to ethylene burn or dry out.
SPRING ORCHID SHOWS will be starting in a few weeks. Start grooming and shaping your entry plants. If you have not started, do it now.
READ catalogs, order early, and enjoy your orchids.

ROSES

Carl Mahanay

PRUNE by removing dead canes, twiggy under-sized growth. Clean out center of bush and shorten all canes to a height of 18-24", depending on the growth habits of the bushes.
REMOVE all leaves and debris from the beds and use a good dormant spray to kill any remaining pests and fungus.
PLANT new rose bushes. Buy healthy grade #1 bareroot plants from your local nursery. Ask about varieties that do well in your area.
PICK a location that gets at least six hours of sun daily.
PREPARE a large deep hole with planting mix and garden soil. Other amendments can be added. Form a cone and spread rose roots over it, leaving the bush union two inches above soil level.
FILL in gently, but firmly, with soil and water well with a B-1 solution. To prevent dehydration mound each bush with damp mulch material until new growth starts. Be sure to keep well watered to prevent canes from drying out until new growth has sprouted.
WATCH for dates of the demonstration pruning in Balboa Park Rose Garden in San Diego.
FEED established roses as new growth starts - one cupful per bush. Give newly planted bushes a liquid fertilizer six weeks after planting.
START preventive spraying in February for mildew and aphids, using half strength on new foliage.
ADD iron chelates after roots start growing - iron can only be absorbed by new roots.
ESTABLISH a regular watering and spraying program.



GREEN THUMB ITEMS

PLANT bareroot trees.
PRUNE flowering trees and shrubs. Pruning at this time will shape plants, and the flowers may be used by arrangements.
TRANSPLANT evergreen and deciduous shrubs.
PRUNE deciduous fruit, nut and shade trees.
DORMANT spray your trees now.
CUT chrysanthemums back to the ground.
DIVIDE and transplant Shasta daisies.
MAKE marguerite cuttings from new tips. Remove lower leaves and insert cuttings into rooting medium. Keep shaded until rooted.
START planting gladiolus bulbs; then make successive plantings at monthly intervals for flowers during the year.
PLANT hybrid amaryllis bulbs, with the tip of nose just showing, in a sunny or semi-shaded area.
SPRAY deciduous trees and shrubs with a combination insecticide and fungicide, such as oil and lime/sulphur, or coppers. Follow directions as given.
CONTINUE to bait for slugs and snails.
APPLY fertilizer to get your lawn off to a good start as the weather warms.

Photo by Lucy Warren

CARROTS

CRUNCHY SWEET and juicy freshly pulled carrots cannot be surpassed and are surely one of gardening's principal satisfactions. Many carrot varieties are fibrous and have been bred to ship well at the expense of taste. Try varieties developed for full flavor and you'll once again know why it's best to "grow your own." Carrots, besides being so good to eat, are full of beta-carotene the most naturally usable form of vitamin A, another cancer prevention hedge.

HINTS FOR GROWING CARROTS: Be patient - carrot seed can take as long as several weeks in germinating. It is really crucial to keep the seed bed evenly moist. Try spreading a piece of burlap over the bed, just until the seeds germinate, to conserve moisture evenly. To have a good crop, you must thin the seedlings several times in the early part of the growing season so they end up 2 inches apart. Dig the bed over well before planting, but do not use fresh manure. Do not harvest early; flavor develops when carrots are mature and a deep orange. A useful way of spacimng tiny carrot seed more effectively is to mix it with some sand before sowing. Plant several successive crops for a constant supply. Carrots "store" well in the ground. Pick as needed.

-=-=-=-=-=-=-=-=-=-=-=-

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Rondavel Room San Diego Zoo

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1253 Nordahl Road
Escondido CA 92026
619/743-1921
3rd Sat - 2:00 pm
Student Center Building
Miracosta Community College

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Encinitas CA 92024-0005

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1148 Canary Court
San Marcos CA 92069-4717
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724 N. Broadway Escondido

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National City CA 92050-7751
619/475-8487
2nd Wed - 9:30 am Coffee
10:00 am Meeting Sep thru Jun
Rohr Park Manor Bonita

BRIDGE AND BAY GARDEN CLUB
Pres: Susanne Scribner
861 Coronado Avenue
Coronado CA 92118-2434
619/435-8088

CHULA VISTA GARDEN CLUB
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1569 Oleander Avenue
Chula Vista CA 92011-5645
619/421-9631
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Rohr Park Manor Bonita

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Pres: Virginia Soderberg
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619/582-7098
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Casa del Prado Balboa Park

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Twice Annually
By Call of President

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Pres: Mrs. David Sigsworth
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619/435-5028
4th Thu - 9:00 am
Coronado Library Coronado

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P. O. Box 1020
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2nd Tue - 1:00 pm
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Hall Valley Center

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Escondido CA 92027-3512
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7450 Via Capri
La Jolla CA 92037-2848
619/459-0496
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8429 Midland Street
La Mesa CA 92042-7730
619/463-1273
2nd Mon - 9:30 am
4975 Memorial Drive La Mesa

LA JOLLA GARDEN CLUB
Pres: Mrs. Robert H. Van Kirk
7821 Boulevard Place
La Jolla CA 92037-3931
619/459-2825
3rd Tue - 1:30 pm
Sep-Jun
La Jolla Lutheran Church
7111 La Jolla Boulevard La Jolla

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Pres: Donna Swink
11351 Eucalyptus Hills Drive
Lakeside CA 92040-1208
619/443-4176
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Lakeside Recreation Center
12219 Roberts Way Lakeside

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La Jolla CA 92037
3rd Mon - 10:30 am
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Seal Beach CA 90740-3446
213/596-4161

ORGANIC GARDEN CLUB SAN DIEGO
Pres: John Miller
10836 Calle Verde Drive #153
La Mesa CA 92041-8308
619/660-9756
3rd Fri - 7:30 pm
Jan-Mar-May-Jul-Sep-Nov
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PACIFIC BEACH GARDEN CLUB
Pres: Michiko Munda
1544 Oliver Avenue
San Diego CA 92109-5321
619/272-9727
2nd Mon - 1:00 pm
Sep thru Jun
Recreation Center Pacific Beach

POINT LOMA GARDEN CLUB
Pres: Ellen E. Kuhns
875 Albion Street
San Diego CA 92106-2933
619/222-2765
2nd Wed - 10:00 am
Sep-Jun 3598 Talbot
Westminister Presby Church

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Dir: Mrs. John H. Lewis
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San Diego CA 92131-1914
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619/748-1978
2nd Wed - 9:00 am
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RANCHO SANTA FE GARDEN CLUB
Pres: Mrs. Phyllis Aylmer
Hort Chrm: Vera Sanjana
P. O. Box 1257
Rancho Santa Fe CA 92067-1646
2nd Tue - 7:30 pm
Rancho Santa Fe Garden Club
Avenida de Acacias

SAN CARLOS GARDEN CLUB
Pres: Jane Combs
625 Tyrone
El Cajon CA 92020-0000
619/447-3507
4th Tue - 9:30 am
Home of Members

SAN DIEGUITO GARDEN CLUB
Pres: Mrs. David W. Hoke
9463 Quail Canyon Road
El Cajon CA 92021
619/390-9908
1st Wed
9:30 am - Refreshments
10:00 am Meeting
Quail Botanical Gardens

THE VILLAGE GARDEN CLUB OF LA JOLLA
Pres: Mrs. Deykes Whitney
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La Jolla CA 9212-0000
619/546-0393
4th Thu - 1:00 pm
Sep thru May
United Methodist Church

THE VISTA GARDEN CLUB
Pres: Mrs. William Winters
3030 Winters Hill
Vista CA 92084-0000
1st Fri - 12:00 pm
Vista Senior Service Center
222 Jefferson St. Vista

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ICHIYO SCHOOL OF IKEBANA SAN DIEGO CHAPER
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10411 San Carlos Drive
Spring Valley CA 92078-1034
619/660-2046

IKEBANA INTERNATIONAL CHAPTER 119
Pres: Barbara E. Church
5845 Friars Road #1113
San Diego CA 92110-6004
619/298-1535
4th Wed - 10:00 am
Sep thru Jun
Casa del Prado Balboa Park

IKENOBO CHAPTER OF SAN DIEGO
Pres: Mrs. Charles Oehler
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619/278-5689

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Pres: Mrs. Robert Fox
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La Jolla CA 92037
619/456-0559
2nd Tues - 10:00 am
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619/429-6198

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SAN DIEGO DAYTIME AFRICAN VIOLET SOCIETY
Pres: Betty Roberson
3612 Laredo Drive
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619/729-6772
2nd Mon - 1:00 pm
Christ United Methodist Church San Diego

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Pres: Melba Batchelor
4th Mon - 6:30 pm Dessert
7:00 pm Meeting
Casa del Prado Balboa Park

HEARTLAND AFRICAN VIOLET SOCIETY
Pres: Mrs. Dixie Puckett
697 Ellen Lane
El Cajon CA 92019-1933
619/588-0509
3rd Tue - 7:00 pm Wells Park Center
1153 East Madison El Cajon

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INTERNATIONAL AROID SOCIETY
Pres: Bruce McManus
11691 SW 93rd Street
Miami FL 33176-1009
305/271-3767

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AMERICAN BAMBOO SOCIETY
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209/539-2145

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ALFRED D. ROBINSON BRANCH AMERICAN BEGONIA SOCIETY
Pres: Edalee Harwell
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2nd Tue - 10:30 am
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SAN MIGUEL BRANCH AMERICAN BEGONIA SOCIETY
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San Diego CA 92120-1323
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Last Sat - 10:30 am
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Pres: Everett Jones
P. O. Box 40037
San Diego CA 92104-0970
619/421-3721
2nd Sun - 11:00 Workshop
1:00 pm Meeting
Casa del Prado Balboa Park

BROMELIAD

BROMELIAD STUDY GROUP OF BALBOA PARK
Pres: Shirley McKim
3911 Portola Place
San Diego CA 92103
619/298-5536
2nd Tue - 7:30 pm
Casa del Prado Rm 104
Balboa Park San Diego

SAN DIEGO BROMELIAD SOCIETY
Pres: David Waller
10272 Black Mountain Rd. #160
San Diego CA 92126-3831
619/578-7041
1st Thu - 7:45 pm
Byzantine Catholic Church
2235 Galahad Road Serra Mesa

CAMELLIA

SAN DIEGO CAMELLIA SOCIETY
Pres: Dean Turney
631 West Pennsylvania Avenue
San Diego CA 92103-3951
619/299-5418
3rd Wed - 7:30 pm
Casa del Prado Balboa Park

CACTUS & SUCCULENT

PALOMAR CACTUS AND SUCCULENT SOCIETY
Pres: Gene Eisenberg
P. O. Box 840
Escondido CA 92025
619/487-1051
4th Sat - 12:45 pm
Joslyn Senior Center
724 N. Broadway Escondido

SAN DIEGO CACTUS AND SUCCULENT SOCIETY
Pres: Chuck Adams
7305 Rock Canyon Drive
San Diego CA 92126-1061
619/530-2551
2nd Sat - 1:30pm
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159 Pine Street
New Hyde Park NY 11040-2446
516/742-3898

SAN DIEGO COUNTY DAHLIA SOCIETY
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6616 Rockglen Avenue
San Diego CA 92111-4108
619/279-5135
4th Tue - 7:30 pm
Except Jul & Dec
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Pres: Sean Minogue
808 Ethel Place
National City CA 92050-4109
619/475-4478
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Casa del Prado Balboa Park

EXOTIC

EXOTIC PLANT SOCIETY
Pres: George Plaisted
6356 Delbarton
San Diego CA 92120-2618
619/583-9551
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Wells Recreation Center
1153 E. Madison El Cajon

FERN
SAN DIEGO FERN SOCIETY
Pres: George Plaisted
6356 Delbarton Street
San Diego CA 92120-2618
619/583-9551
3rd Thu - 7:30 pm
Casa del Prado Balboa Park

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San Diego CA 92110
619/276-7896

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620 Melba #11
Encinitas CA 92024
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1999 California St. Oceanside

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58 "I" Street
Chula Vista CA 92010-4924
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San Diego CA 92154-2937
619/423-0213
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Casa del Prado Balboa Park

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1412 Tenth Street
Imperial Beach CA 92032-3433
619/424-5659
2nd Tue - 7:30 pm
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SOUTHWEST HEMEROCALLIS SOCIETY
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7887 Revelle Drive
La Jolla CA 92037-3539
619/453-1998
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Feb-Apr-Jun-Sep-Nov
Quail Botanical Gardens
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SAN DIEGO/IMPERIAL COUNTIES IRIS SOCIETY
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San Diego CA 92128-3527
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Frances Rynearson
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6066 Portobelo Court
San Diego CA 92124-1114
619/278-0326
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Pres: Dorris Baur
16516 Gabarda Road
San Diego CA 92128-3021
619/487-6614
3rd Mon - 3:00 pm
16003 Turtleback Road
Rancho Bernardo

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CYMBIDIUM SOCIETY OF AMERICA, INC. SAN DIEGO COUNTY BRANCH
Pres: Kathy Belz
2767 High Mead Circle
Vista CA 92084-1830
619/941-0382
3rd Thu - 7:30 pm
Oct thru Jun Quail Botanical Gardens Encinitas

PALOMAR ORCHID SOCIETY
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Fallbrook CA 92028-3540
619/728-8974
2nd Fri - 7:30 pm
Vista Senior Center
222 Jefferson St. Vista

SAN DIEGO COUNTY ORCHID SOCIETY
Pres: Dr. Bernard Roth
4477 Ampudia Street
San Diego CA 92103-4531
619/296-6437
1st Tue - 7:30 pm
Casa del Prado Balboa Park

ROSE
CALIFORNIA COASTAL ROSE SOCIETY
Pres: Steve Marvin
P. O. Box 133
Carlsbad CA 92008-0030
619/433-2454
3rd Tue - 7:00 pm
Calavera Hills Community Center Carlsbad

EAST COUNTY ROSE SOCIETY
Pres: Sally Long
1663 Fuerte Ranch Road
El Cajon CA 92019-3730
1st Sun - 2:00 pm
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SAN DIEGO ROSE SOCIETY
Pres: Dallas Runion
1627 Regulus Street
San Diego CA 92111-7129
619/279-6134
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THE WATER LILY SOCIETY
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P. O. Box 104
Buckeystown MD 21717-0104
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Balboa Park San Diego

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Term 1989-1992
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Milton Sessions
Lois Vaiana

Term 1990-1993
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Vernice Putman

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Properties
Pat Kastama
619/222-2707

Newsletter
John J. Gagliardi
619/449-1648

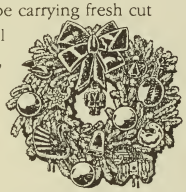
Chrysanthemum

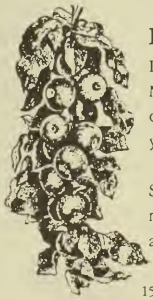
Mission Hills Nursery. Your Garden Center for Every Season

Mission Hills Nursery has been serving San Diego's gardeners for over 80 years. We pride ourselves in the wide selection and quality of our merchandise and in the knowledge and experience of our staff. We invite you to stop by at any time and get acquainted.

Christmas is in the Air

It won't be long before the smell of fresh cut Christmas trees fills the air around Mission Hills Nursery. Once again, we will be carrying fresh cut and live Christmas trees as well as a full assortment of wreaths, garlands and poinsettias in every size and color! Let us help you decorate your holdiays.





Bare Root Season is Here

In addition to our Christmas inventory, Mission Hills now has a complete selection of bare root roses and fruit trees ready for your winter garden.

Stop by and pick up your favorites. And remember, our staff is always there to answer any of your questions.

MISSION HILLS NURSERY

1525 Ft. Stockton St. • San Diego, CA 92103 • (619) 295-2808

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San Diego Floral Association, Inc.
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